AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A device ~~adapted to be used~~ in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, the communication system including a plurality of remote transceiver units and a central transceiver unit disposed remotely from the plurality of remote transceiver units, the plurality of remote transceiver units operable to communicate in a continuous bi-directional manner for direct exchange of information with the central transceiver unit, the device for providing that each of the plurality of remote transceiver units communicate with the central transceiver unit using a common frequency, the device comprising:

~~a plurality of remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a central transceiver unit disposed remotely therefrom using a common frequency;~~

means for detecting, responsive to a continuous comparison of received and detected signals in each of the ~~said first~~ remote transceiver units, a comparative offset between ~~respective~~ common frequency references used locally by the ~~said~~ remote transceiver units and the common frequency used by the central transceiver unit in at least one first signal transmitted ~~by said~~ between the central and the remote transceiver units ~~and received by the central transceiver unit~~, wherein the common frequency reference is a carrier frequency in a first remote transceiver unit and a sampling frequency in a second remote transceiver unit;

means for adjusting the common frequency reference in each of the ~~said first and second~~ remote transceiver units in accordance with the offsets ~~detected responsive to the~~

~~continuous comparison of received and detected signals~~ in at least one second signal to be transmitted ~~by~~ between the remote and central transceiver units ~~and to be received by said first or second remote transceiver unit~~ to correct for an error in the common frequency reference ~~used locally thereat~~, so that ~~the~~ effects of the offset ~~to be perceived by said first or second~~ in each of the remote transceiver units will be substantially reduced in preemptive manner, the second signal ~~to be transmitted~~ being ~~thereby adjusted to be~~ in substantial frequency lock with the common frequency ~~reference of said first or second remote transceiver unit~~.

2-3. (Canceled).

4. (Currently Amended) A device according to claim 1, wherein the means for detecting ~~the offsets~~ in the first remote transceiver unit includes means for performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

5. (Currently Amended) A device according to claim 1, wherein the means for adjusting ~~the common frequencies~~ in the first remote transceiver unit includes means for digitally shifting data in frequency ~~to be transmitted~~ in accordance with the carrier frequency and the offset corresponding thereto.

6-7. (Canceled).

8. (Currently Amended) A device according to claim 1, wherein the means for detecting ~~the offsets~~ in the first remote transceiver unit includes means for locking onto the offset in the carrier frequency and for producing an output signal

corresponding thereto.

9. (Currently Amended) A device according to claim 8, wherein the means for adjusting ~~the common frequencies~~ in the first remote transceiver unit includes means for variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal ~~generated by the locking means~~.

10-14. (Canceled).

15. (Currently Amended) A method ~~adapted to be~~ used in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, wherein the communication system comprises a plurality of remote transceiver units operable to communicate in a continuous bi-directional manner for the direct exchange of information with a central transceiver unit disposed remotely ~~there~~from the plurality of remote transceiver units, and wherein each of the plurality of remote transceiver units operates to communicate with the central transceiver unit using a common frequency, the method comprising:

detecting, responsive to a continuous comparison of received and detected signals in each of ~~said~~ the remote transceiver units, a comparative offset between ~~respective~~ common frequency references used locally by ~~said~~ the remote transceiver units and the common frequency used by the central transceiver units in at least a first signal transmitted ~~by~~ between the ~~said~~ central and the remote transceiver units ~~and received by the central transceiver unit~~, wherein the common frequency reference is a carrier frequency in a first remote transceiver unit and a sampling frequency in a second remote

transceiver unit; and,

adjusting the common frequency reference in each of the ~~said first and second~~ remote transceiver units in accordance with the offset~~s detected responsive to continuous comparison of received and detected signals~~ in at least one second signal to be transmitted ~~by~~ between the remote and the central transceiver unit~~s and to be received by said first or second remote transceiver unit~~ to correct for an error in the common frequency reference ~~used locally thereat~~, so that ~~the~~ effects of the offset~~s to be perceived by said first or second~~ in each of the remote transceiver unit~~s~~ will be substantially reduced in preemptive manner, the second signal ~~to be transmitted~~ being ~~thereby adjusted to be~~ in substantial frequency lock with the common frequency ~~reference of said first or second remote transceiver unit~~.

16-17. (Canceled)

18. (Currently Amended) A method according to claim 15, wherein the step of detecting ~~the offsets~~ for the first remote transceiver unit includes performing a correlation on a digital representation of the first signal so as to lock onto the offset in the carrier frequency.

19. (Currently Amended) A method according to claim 15, wherein the step of adjusting ~~the common frequency~~ for the first remote transceiver unit includes digitally shifting data in frequency ~~to be transmitted~~ in accordance with the carrier frequency and the offset corresponding thereto.

20-21. (Canceled)

22. (Currently Amended) A method according to claim 15, wherein the step of detecting ~~the offsets~~ for the first remote transceiver unit includes locking onto the offset in the carrier frequency and producing an output signal corresponding thereto.

23. (Currently Amended) A method according to claim 22, wherein the step of adjusting ~~the common frequency~~ for the first remote transceiver unit includes variably adjusting a reference frequency output by a crystal oscillator in accordance with the output signal ~~generated by the locking means~~.

24-28. (Canceled)

29. (Currently Amended) A device ~~adapted to be used~~ usable in any of a plurality of remote transceiver units, the remote transceiver units operating to communicate with a central transceiver unit using a common frequency, the central transceiver unit being disposed remotely from the plurality of remote transceiver units, the device comprising:

a frequency lock loop in a first remote transceiver unit and a delay lock loop in a second remote transceiver unit, the frequency and delay lock loops ~~respectively~~ coupled to receive digital representations of at least one first signal transmitted by the central transceiver unit, the frequency and delay lock loops being respectively adapted to detect comparative carrier and sampling frequency offsets in the ~~respective~~ first signal~~s~~ and to produce offset information ~~corresponding thereto~~ indicative of offsets between ~~respective~~ common frequency references locally used at the remote transceiver units and the common frequency used at the central transceiver unit~~s~~; and

a frequency shift block in ~~said~~ the first remote transceiver unit and a timing acquisition unit in ~~said~~ the

second remote transceiver unit, the frequency shift block and the timing acquisition unit ~~respectively~~ coupled to receive the offset information and digital data to be transmitted ~~by said first and second remote transceiver units in~~ and each to generate at least one second signal to be received by the central transceiver unit ~~disposed remotely therefrom~~, the frequency shift block and the timing acquisition unit being respectively adapted to digitally shift and sample the digital data in frequency in accordance with the common ~~frequencies~~ frequency references and the carrier and the sampling frequency offsets corresponding thereto to correct for errors in the common frequency references ~~used locally at the central transceiver unit~~, so that ~~the~~ effects of the carrier and the sampling frequency offsets ~~to be perceived by the central transceiver unit~~ will be substantially reduced in preemptive manner for continuous wireless bi-directional communication between the remote and the central transceiver units for the direct exchange of information.

30. (Canceled).

31. (Currently Amended) A device ~~adapted to be used~~ usable in any of a plurality of remote transceiver units, the plurality of remote transceiver units to communicate with a central transceiver unit using a common frequency, the central transceiver unit being disposed remotely ~~therefrom~~ from the plurality of remote transceiver units ~~using a common frequency~~, the device comprising:

a frequency lock loop in a first remote transceiver unit and a delay lock loop in a second remote transceiver unit, the frequency and delay lock loops ~~respectively~~ coupled to receive digital representations of at least one first signal transmitted

by the central transceiver unit, the frequency and delay lock loops being respectively adapted to detect comparative carrier and sampling frequency offsets in the ~~respective~~ first signal~~s~~ and to produce analog offset signals ~~corresponding thereto~~ indicative of offsets between ~~respective~~ common frequency references locally used at the remote transceiver units and the common frequency used at the central transceiver unit~~s~~;

a crystal oscillator in the first remote transceiver unit that supplies a reference frequency for modulating at least one second signal ~~to be perceived by the central transceiver unit in accordance~~ substantially locked with the common frequency; and

variably adjustable device~~s~~ coupled to receive the offset signals, the variably adjustable device~~s~~ being respectively adapted to adjust the reference frequency of the crystal oscillator and a sampling clock of an analog-to-digital converter in accordance with the offset signals to correct for errors in the common frequency references ~~used locally at the central transceiver unit~~, so that ~~the~~ effects of the carrier and the sampling frequency offsets in the second signal to be perceived by the central transceiver unit will be substantially reduced in preemptive manner for continuous wireless bi-directional communication between the remote and the central transceiver units for ~~the~~ direct exchange of information.

32-33. (Canceled).

34. (Currently Amended) A device ~~adapted to be used~~ usable in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, the communication system including a plurality of remote transceiver units operable to communicate in a continuous bi-directional manner for the direct exchange of information with a central transceiver unit using a

common frequency, the central transceiver unit being disposed remotely from the plurality of remote transceiver units, the device comprising:

~~a plurality of remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a central transceiver unit disposed remotely therefrom using a common frequency;~~

means for detecting, responsive to a continuous comparison of received and detected signals in each of ~~said~~ the remote transceiver units, a comparative offset between ~~respective~~ common frequency references used locally by said remote transceiver units and the common frequency used by the central transceiver unit in at least one first signal transmitted ~~by said~~ between the central and the remote transceiver units ~~and received by the central transceiver unit~~, wherein the common frequency reference is a carrier frequency in a first remote transceiver unit and a sampling frequency in a second remote transceiver unit;

means for communicating information corresponding to the detected offsets from the central transceiver unit to the first and second remote transceiver units; and~~,~~

means for adjusting the common frequency references in ~~said~~ the first and the second remote transceiver units in accordance with the offsets ~~detected responsive to continuous comparison of received and detected signals~~ in at least one second signal to be transmitted ~~by said~~ between the first or second remote transceiver unit and ~~to be received by~~ the central transceiver unit to correct for errors in the common frequency reference~~s~~ ~~used locally thereat~~, so that ~~the~~ effects of the offsets ~~to be perceived by the central transceiver unit~~ will be substantially reduced in preemptive manner, the second signal ~~to be transmitted~~ being ~~thereby adjusted to be~~ in substantial

frequency lock with the common ~~carrier~~ frequency ~~reference of the central transceiver unit~~.

35. (Currently Amended) A device ~~adapted to be used~~ in a communication system, the communication system using one of OFDM, NBFDM, DMT, FDMA and TDMA, the communication system including a plurality of remote transceiver units and a central transceiver unit disposed remotely from the plurality of remote transceiver units, the plurality of remote transceiver units operable to communicate in continuous bi-directional manner for direct exchange of information with the central transceiver unit, the device for providing that each of the plurality of remote transceiver units communicate with the central transceiver unit using a common frequency, the device comprising:

~~a plurality of remote transceiver units operable to communicate in continuous bi-directional manner for the direct exchange of information with a central transceiver unit disposed remotely therefrom using a common frequency;~~

means for detecting, responsive to a continuous comparison of received and detected signals in each of ~~said~~ the remote transceiver units, a comparative offset between ~~respective~~ common frequency references used locally by ~~said~~ the remote transceiver units and the common frequency used by the central transceiver unit in at least one first signal transmitted ~~by said~~ between the central and the remote transceiver units ~~and received by the central transceiver unit~~, wherein the common frequency reference is a carrier frequency in a first remote transceiver unit and a sampling frequency in a second remote transceiver unit;

means for communicating information corresponding to the detected offsets from the central transceiver unit to the first

and second remote transceiver units; and~~,~~

means for adjusting the common frequency reference in each of ~~said~~ the first and the second remote transceiver units in accordance with the offsets ~~detected responsive to continuous comparison of received and detected signals~~ in at least one second signal to be transmitted ~~by~~ between the remote and the central transceiver units ~~and to be received by said first or second remote transceiver unit~~ to correct for errors in the common frequency references ~~used locally thereat~~, so that ~~the~~ effects of the offsets ~~to be perceived by the first or second remote transceiver unit~~ will be substantially reduced in preemptive manner, the second signal being ~~to be transmitted being thereby adjusted to be~~ in substantial frequency lock with the common ~~carrier~~ frequency ~~reference of the first or second remote transceiver unit~~.